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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,159

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David Barras

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EXAMINER

NGUYEN, LEON VIET Q

ART UNIT

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2611

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,159	Applicant(s) BARRAS, DAVID	
	Examiner LEON-VIET Q. NGUYEN	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-16, 19, 20, 25 and 26 is/are rejected.
- 7) ☒ Claim(s) 17, 18, 21-24 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/1/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 3/1/05 was filed after the mailing date of 3/1/05. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11, 15, 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soykan et al (US6236889) further in view of Ohyama et al (US4209783).

Re claim 11, Soykan teaches a method of transmitting data by means of acoustic waves between a transmitter device (device 20 in fig. 4) and a receiver device (device comprising blocks 74 and 76 in fig. 4),

said transmitter device having a first electroacoustic transducer (col. 10 lines 59-62) for transmitting an acoustic carrier wave at at least one frequency (col. 10 lines 29-32) and means for modulating said acoustic carrier wave as a function of data to be transmitted (col. 10 lines 33-37 and lines 53-55),

said receiver device having a second electroacoustic transducer for receiving said acoustic carrier wave modulated by the transmitter device (col. 9 lines 1-5, col. 10 lines 53-59) and means for demodulating said acoustic carrier wave and extracting the transmitted data therefrom (col. 11 lines 5-7), and

said first and second electroacoustic transducers each having a determined bandwidth (col. 10 lines 26-44, although not explicitly taught it would be obvious that each transducer have some set bandwidth to send and receive signals in the frequency range. It would be impossible to have unlimited bandwidth therefore the upper or lower limit is interpreted to be a determined bandwidth) and a determined frequency response characteristic (col. 10 lines 37-44, Δf and f_m).

Soykan fails to teach wherein the frequency of said acoustic carrier wave is varied during a determined time period to sweep a determined range of frequencies situated in the bandwidth common to said first and second electroacoustic transducers so that the frequency of the transmitted acoustic carrier wave does not coincide at any time with a peak or a trough of the frequency response characteristic of said first or said second electroacoustic transducer.

However Ohyama teaches varying a frequency during a determined time period to sweep a determined range of frequencies (col. 6 lines 22-29). Ohyama also teaches using piezoelectric crystals for resonators (col. 1 lines 27-29), which perform the same function as an electro-acoustic transducer. It would be obvious to use the piezoelectric crystals on both the transmitter and receiver sides. Furthermore, one of ordinary skill in

Art Unit: 2611

the art would realize that if the frequency of the carrier wave is varied during the sweeping period, then it would not coincide with frequency response of the transducer since one of the values would be changing.

Therefore taking the combined teachings of Soykan and Ohyama as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the features of Ohyama into the method of Soykan. The motivation to combine Ohyama and Soykan would be to eliminate rail incomplete contact noise (col. 6 lines 8-10).

Re claim 15, the modified invention of Soykan teaches a method wherein the frequency of said acoustic carrier wave is varied by means of a frequency modulation technique employing one or more modulating signals (col. 2 lines 18-21 of Soykan, it would be obvious to have at least one modulating signal).

Re claim 19, the modified invention of Soykan teaches a method wherein said acoustic carrier wave is an acoustic wave that has a centre frequency of the order of 3000 Hz to 3500 Hz which is frequency modulated by said modulating signals (col. 9 lines 21-27 of Soykan, the range 300Hz to 4kHz includes the 3000Hz to 35000Hz range).

Re claim 26, the modified invention teaches a system for transmitting data by means of acoustic waves for implementing the transmission method according to claim 11, wherein this system comprises:

a data processing terminal (block 20 in fig. 4 of Soykan) associated with at least one acoustic transmitter device (transmitter 22 in fig. 4 of Soykan) having a first electroacoustic transducer for transmitting said acoustic carrier wave (col. 10 lines 59-62 of Soykan), and

at least a portable device (blocks 74 and 76 in fig. 4 of Soykan) provided with an acoustic receiver device (block 76 in fig. 4 of Soykan) having a second electroacoustic transducer for receiving said acoustic carrier wave (col. 9 lines 1-5, col. 10 lines 53-59).

3. Claims 12, 16, 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soykan et al (US6236889) and Ohyama et al (US4209783) in view of Dent (US6404821).

Re claim 12, the modified invention of Soykan teaches a method wherein said modulation means of the transmitter device are amplitude modulation means (col. 2 lines 18-21 of Soykan) but fails to teach wherein the frequency of said acoustic carrier wave is varied so that the envelope of this acoustic carrier wave remains substantially constant for a given modulation amplitude level.

However Dent teaches varying the frequency of a carrier wave (col. 5 lines 26-31, varying radio frequency amplitude) so that the envelope of this carrier wave remains substantially constant for a given modulation amplitude level (col. 5 lines 26-31, maintaining a constant amplitude signal).

Therefore taking the modified teachings of Soykan and Ohyama with Dent as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the features of Dent into the method of Soykan and Ohyama. The motivation to combine Dent, Ohyama and Soykan would be to operate at a greater efficiency (col. 5 lines 31-34).

Re claim 16, the modified invention of Soykan teaches a method wherein the frequency of said acoustic carrier wave is varied by means of a frequency modulation technique employing one or more modulating signals (col. 2 lines 18-21 of Soykan, it would be obvious to have at least one modulating signal).

Re claim 20, the modified invention of Soykan teaches a method wherein said acoustic carrier wave is an acoustic wave that has a centre frequency of the order of 3000 Hz to 3500 Hz which is frequency modulated by said modulating signals (col. 9 lines 21-27 of Soykan, the range 300Hz to 4kHz includes the 3000Hz to 35000Hz range).

Re claim 25, the modified invention of Soykan fails to teach a method wherein said acoustic carrier wave is stored in said transmitter device in the form of a succession of samples stored in a table.

However Dent teaches storing samples of a signal in succession in a table (col. 8 line 51 – col. 9 line 12, each bit is interpreted to be a sample of the signal to be transmitted).

Therefore taking the modified teachings of Soykan and Ohyama with Dent as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the features of Dent into the method of Soykan and Ohyama. The motivation to combine Dent, Ohyama and Soykan would be to operate at a greater efficiency (col. 5 lines 31-34).

4. Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Soykan et al (US6236889) and Ohyama et al (US4209783) in view of Johnson (US4245220).

Re claim 13, the modified invention of Soykan fails to teach a method wherein the frequency of said acoustic carrier wave is varied in a substantially linear manner over said determined range of frequencies.

However Johnson teaches wherein the frequency of said acoustic carrier wave is varied in a substantially linear manner over said determined range of frequencies (col. 2 lines 63-65).

Therefore taking the modified teachings of Soykan and Ohyama with Johnson as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the features of Johnson into the method of Soykan and Ohyama. The motivation to combine Johnson, Ohyama and Soykan would be to enable broad band coverage which gives good resolution and a large sector coverage (col. 3 lines 8-10).

5. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Soykan et al (US6236889), Ohyama et al (US4209783), and Dent (US6404821) in view of Johnson (US4245220).

Re claim 14, the modified invention of Soykan fails to teach a method wherein the frequency of said acoustic carrier wave is varied in a substantially linear manner over said determined range of frequencies.

However Johnson teaches wherein the frequency of said acoustic carrier wave is varied in a substantially linear manner over said determined range of frequencies (col. 2 lines 63-65).

Therefore taking the modified teachings of Soykan, Ohyama and Dent with Johnson as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the features of Johnson into the method of Dent, Soykan and Ohyama. The motivation to combine Johnson, Dent, Ohyama and Soykan would be to enable broad band coverage which gives good resolution and a large sector coverage (col. 3 lines 8-10).

Allowable Subject Matter

6. Claims 17, 18, 21-24 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON-VIET Q. NGUYEN whose telephone number is (571)270-1185. The examiner can normally be reached on monday-friday, alternate friday off, 7:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon-Viet Q Nguyen/
Examiner, Art Unit 2611

/David C. Payne/

Supervisory Patent Examiner, Art Unit 2611